

APPENDIX

The following claims are introduced:

21. A culturing method which provides for the production of avian Primavril germ cells (PGCs) and embryonic germ (EG) cells comprising the following steps:

- (i) isolating primordial germ cells (PGCs) from a desired avian;
- (ii) culturing said PGCs in a complete culture medium containing essentially the following growth factors in amounts sufficient to maintain said PGCs for prolonged periods in tissue culture:

- (1) leukemia inhibitory factor (LIF),
- (2) basic fibroblast growth factor (bFGF),
- (3) stem cell factor (SCF) and
- (4) insulin-like growth factor (IGF),

for a time period sufficient to produce a culture having a compact multilayer like appearance whereby said culturing is performed in the absence of a feeder layer, wherein said culture comprises a mixture of PGCs and EG cells.

22. The method of Claim 21, wherein the maximal amounts of said growth factors range from about two times to one hundred times said minimal amounts.

23. The method of claim 22, wherein the maximal amounts of said growth factors range from about three times to one hundred times said minimal amounts.

24. The method of claim 21, wherein said avian PGCs are obtained from an avian of the genus Gallinecia.

26. The method of claim 24, wherein said PGCs are chicken or turkey PGCs.

26. The method of claim 21, wherein said PGCs are maintained in culture for at least 14 days.

27. The method according to claim 26, wherein said PGCs are maintained in culture for at least 28 days.

28. The method according to claim 27 wherein said PGCs are maintained in culture for at least 4 months.

29. The method of claim 21, which further comprises:

(iv) transfecting or transforming the resultant PGCs and EG cells with a desired nucleic acid sequence.

30. A culture comprising avian PGCs and EG cells produced according to claim 21, which comprises said growth factors.

31. The culture of claim 30 wherein said PGCs are chicken or turney PGCs.

32. The culture of claim 30 wherein said PGCs are transfected with a heterologous DNA system.